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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,514	06/25/2003	David S. De Lorenzo	42P15056	5233

8791 7590 07/15/2004

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EXAMINER

SHECHTMAN, SEAN P

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/606,514

Applicant(s)

DE LORENZO ET AL.

Examiner

Sean P. Shechtman

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 1-36 are presented for examination.

#### ***Information Disclosure Statement***

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. See page 2, paragraph 4 of the instant specification.

#### ***Drawings***

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

4. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions,

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wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

5. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) **BRIEF SUMMARY OF THE INVENTION.**

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- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

6. The disclosure is objected to because of the following informalities:

Referring to page 2, paragraph 2, examiner respectfully submits that the memory in Fig. 1 is labeled with reference character 15, not 13. Similarly, the memory controller in Fig. 1 is labeled with reference character 13, not 15.

Appropriate correction is required.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-9, 13-21, and 25-33 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,557,551 to Craft.

Referring to claims 1, 13, and 25, Craft teaches an apparatus, method and system, comprising:

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a device having a thermal characteristic which is dependent on a number of times the device is accessed over a period of time (Col. 3, lines 1-62); and

a controller connected to the device and adapted to control access to the device (Col. 7, lines 3-5),

wherein the controller is adapted to calculate a temperature estimate of the device (Col. 2, lines 28-30; Col. 6, lines 53-62) and to control access to the device in accordance with the calculated temperature estimate (Col. 7, lines 3-5).

Referring to claims 2, 14, and 26, Craft teaches an apparatus, method and system above, wherein the controller is adapted to receive an access request (Col. 6, lines 56-62), calculate the temperature estimate in accordance with the access request (Col. 6, lines 56-62; Col. 2, lines 28-30), determine if the temperature estimate exceeds a temperature threshold (Col. 6, lines 63-65), and impose an access request budget if the temperature estimate exceeds the temperature threshold (Col. 6, line 66 – Col. 7, line 8).

Referring to claims 3, 15, and 27, Craft teaches an apparatus, method and system above, wherein the controller is adapted to process the access request without an access request budget if the temperature estimate does not exceed the temperature threshold (Col. 3, lines 6-62; Col. 4, lines 30-56).

Referring to claims 4, 16, and 28, Craft teaches an apparatus, method and system above, wherein the controller is adapted to process the request in accordance with the imposed access request budget if the temperature estimate exceeds the temperature threshold (Col. 6, line 66 – Col. 7, line 8).

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Referring to claims 5, 17, and 29, Craft teaches an apparatus, method and system above, wherein the controller is adapted to calculate a new access request budget each time the access request budget is imposed (Col. 4, line 57 – Col. 5, line 30).

Referring to claims 6, 18, and 30, Craft teaches an apparatus, method and system above, wherein the controller is adapted to calculate a new access request budget periodically (Col. 4, line 57 – Col. 5, line 30).

Referring to claims 7, 19, and 31, Craft teaches an apparatus, method and system above, wherein the controller is adapted to calculate the new access request budget when a parameter involved in the calculation is updated (Col. 4, line 57 – Col. 5, line 30).

Referring to claims 8, 20, and 32, Craft teaches an apparatus, method and system above, wherein the updated parameter corresponds to an ambient temperature (Col. 1, lines 21-25).

Referring to claims 9, 21, and 33, Craft teaches an apparatus, method and system above, wherein the controller is adapted to calculate the temperature estimate in accordance with an estimated initial temperature of the device, an estimated equilibrium temperature of the device, and an estimated temperature decay rate for the device (Col. 6, lines 26-35).

8. Claims 1-7, 13-19, and 25-31 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 6,173,217 to Bogin.

Referring to claims 1, 13, and 25, Bogin teaches an apparatus, method and system, comprising:

a device having a thermal characteristic which is dependent on a number of times the device is accessed over a period of time (Col. 5, lines 44-56; Col. 6, lines 52-65); and



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a controller connected to the device and adapted to control access to the device

(Abstract),

wherein the controller is adapted to calculate a temperature estimate of the device and to control access to the device in accordance with the calculated temperature estimate (Col. 2, lines 18-26; Col. 1, lines 30-39).

Referring to claims 2, 14, and 26, Bogin teaches an apparatus, method and system above, wherein the controller is adapted to receive an access request, calculate the temperature estimate in accordance with the access request (Fig. 1A, element 106), determine if the temperature estimate exceeds a temperature threshold, and impose an access request budget if the temperature estimate exceeds the temperature threshold (Col. 5, line 66 – Col. 6, line 12).

Referring to claims 3, 15, and 27, Bogin teaches an apparatus, method and system above, wherein the controller is adapted to process the access request without an access request budget if the temperature estimate does not exceed the temperature threshold (Col. 5, line 66 – Col. 6, line 12).

Referring to claims 4, 16, and 28, Bogin teaches an apparatus, method and system above, wherein the controller is adapted to process the request in accordance with the imposed access request budget if the temperature estimate exceeds the temperature threshold (Col. 5, line 66 – Col. 6, line 12).

Referring to claims 5, 17, and 29, Bogin teaches an apparatus, method and system above, wherein the controller is adapted to calculate a new access request budget each time the access request budget is imposed. Referring to claims 6, 18, and 30, Bogin teaches an apparatus,

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method and system above, wherein the controller is adapted to calculate a new access request budget periodically (Fig. 1B).

Referring to claims 7, 19, and 31, Bogin teaches an apparatus, method and system above, wherein the controller is adapted to calculate the new access request budget when a parameter involved in the calculation is updated (Fig. 4B).

9. Claims 1-7, 13-19, and 25-31 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,470,238 to Nizar.

Referring to claims 1, 13, and 25, Nizar teaches an apparatus, method and system, comprising:

a device having a thermal characteristic which is dependent on a number of times the device is accessed over a period of time (Col. 12, lines 8-44); and

a controller connected to the device and adapted to control access to the device (Col. 11, line 52 – Col. 12, line 2),

wherein the controller is adapted to calculate a temperature estimate of the device and to control access to the device in accordance with the calculated temperature estimate (Col. 11, line 52 – Col. 12, line 2).

Referring to claims 2, 14, and 26, Nizar teaches an apparatus, method and system above, wherein the controller is adapted to receive an access request (Col. 1, lines 29-32), calculate the temperature estimate in accordance with the access request (Col. 2, lines 1-14), determine if the temperature estimate exceeds a temperature threshold, and impose an access request budget if the temperature estimate exceeds the temperature threshold (Col. 5, lines 50-63).

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Referring to claims 3, 15, and 27, Nizar teaches an apparatus, method and system above, wherein the controller is adapted to process the access request without an access request budget if the temperature estimate does not exceed the temperature threshold (Fig. 6).

Referring to claims 4, 16, and 28, Nizar teaches an apparatus, method and system above, wherein the controller is adapted to process the request in accordance with the imposed access request budget if the temperature estimate exceeds the temperature threshold (Fig. 6).

Referring to claims 5, 17, and 29, Nizar teaches an apparatus, method and system above, wherein the controller is adapted to calculate a new access request budget each time the access request budget is imposed (Col. 8, lines 63-65).

Referring to claims 6, 18, and 30, Nizar teaches an apparatus, method and system above, wherein the controller is adapted to calculate a new access request budget periodically (Fig. 1B).

Referring to claims 7, 19, and 31, Nizar teaches an apparatus, method and system above, wherein the controller is adapted to calculate the new access request budget when a parameter involved in the calculation is updated (Col. 11, line 52 – Col. 12, line 2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 10-12, 22-24, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craft as applied to claims 1, 13, and 25 above, and further in view of U.S. Pat. No. 6,115,441 to Douglass. Claims 8-12, 20-24, and 32-36 are rejected under 35 U.S.C. 103(a)

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as being unpatentable over Bogin, or Nizar as applied to claims 1, 13, and 25 above, and further in view of U.S. Pat. No. 6,115,441 to Douglass.

Referring to claims 8-12, 20-24, and 32-36, Bogin or Nizar or Craft teach all the limitations set forth above, however, Bogin or Nizar fail to teach the apparatus, method and system above, wherein the controller is adapted to calculate the temperature estimate in accordance with an estimated initial temperature of the device, an estimated equilibrium temperature of the device, and an estimated temperature decay rate for the device, and referring to claims 8, 20, and 32, Bogin or Nizar fail to teach the apparatus, method and system above, wherein the updated parameter corresponds to an ambient temperature.

However, referring to claims 9-12, 21-24, and 33-36, Douglass teaches analogous art, including a controller is adapted to calculate the temperature estimate in accordance with an estimated initial temperature of the device, an estimated equilibrium temperature of the device, and an estimated temperature decay rate for the device (Col. 34, lines 1-12), and referring to claims 8, 20, and 32, teaches the apparatus, method and system above, wherein a updated parameter corresponds to an ambient temperature (Col. 1, lines 51-61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teachings of Craft, Bogin, or Nizar with the teachings of Douglass

One of ordinary skill in the art would have been motivated to combine these references because Douglass teaches a system and process to measure temperature using monolithic silicon implementations without an external sensor. Furthermore, Douglass teaches that, in contrast to

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other temperature measuring circuits, which typically attempt to measure a change in  $V_{be}$  for a bipolar transistor, this sensor compares periods of two oscillators having different temperature coefficients (hereafter "tempcos"). Further still, Douglass teaches that in the system, that is approximately accurate within  $\pm 0.5$  degree Celsius in the range from  $-55$  degree C. to  $125$  degree C. disclosed circuitry operates with supply voltages of 3.5V to 5.5V and consumes no more than 55  $\mu$ A when operating and leakage only when in a standby condition (Col. 4, lines 1-14).

### *Conclusion*

11. The prior art or art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents or publications are cited to further show the state of the art with respect to a controller adapted to calculate a temperature estimate of a device without using feedback, and that said controller is commonly known in the art.

U.S. Pat. No. 6,047,248 to Georgiou (See col. 1, line 66 – Col. 2, line 5).

U.S. Pat. No. 5,422,806 to Chen (See Col. 2, lines 43-50).

U.S. Pub. No. 2003/0060934 to Walsh, Assignee: INTEL CORPORATION (See page 1, paragraph 3).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (703) 305-7798. The examiner can normally be reached on 9:30am-6:00pm, M-F.

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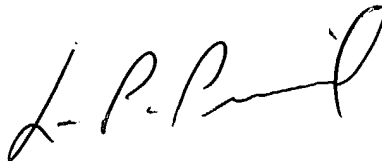
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SPS

Sean P. Shechtman

July 10, 2004



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